690/790 Security Command LCD Keypads

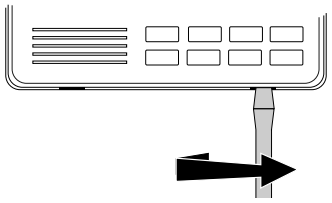
Description

The 690 and 790 Security Command LCD Keypads provide three 2-button Panic keys, an AC power LED, an Armed LED, 32-character display, backlit keyboard with easy-to-read lettering, and a built-in speaker. The 790 additionally provides four fully programmable Class B protection zones you can program for a variety of burglary and fire applications.

The 690F and 790F Security Command LCD keypads do not provide an Armed LED. These keypads may be installed in fire only applications.

Removing the Base

The keypad housing is made up of two parts: the *front*, which contains the circuit board and other components, and the *base*. To remove the base, insert a flat screwdriver into one of the openings on the bottom and ***gently twist*** it while pulling the halves apart. Repeat with the other opening.



Installing the keypad

The 690/790 keypads use the same plastic housing and are designed to easily install on any 4 square box, 3-gang switch box, 695 and 696 backbox, or flat surface. Figure 1 shows the mounting hole locations on the base of the keypad housing and the 790 wiring harness.

Harness Wiring

The 790 keypad is supplied with a single 12-wire harness. Four of the wires allow you to connect the keypad to the panel's keypad data bus wiring and the remaining eight are the four zone inputs. The harness wire colors are shown in Figure 1. Use 1k Ohm EOL resistors on zones 1 through 4.

The 690 keypad is supplied with a single 4-wire harness for connection to the panel's keypad data bus wiring. The 690 Harness consists of only the bottom four wires shown in Figure 1: Black, Green, Yellow, and Red.

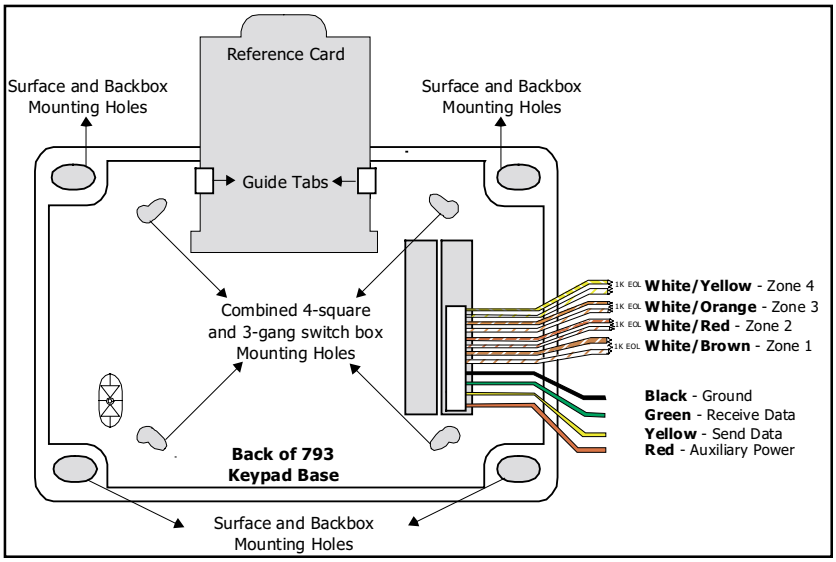

Reference Card
Surface and Backbox Mounting Holes
Surface and Backbox Mounting Holes
Guide Tabs
Combined 4-square and 3-gang switch box Mounting Holes
1K EOL White/Yellow - Zone 4
1K EOL White/Orange - Zone 3
1K EOL White/Red - Zone 2
1K EOL White/Brown - Zone 1
Black - Ground
Green - Receive Data
Yellow - Send Data
Red - Auxiliary Power
Back of 793 Keypad Base
Surface and Backbox Mounting Holes

Figure 1: 690/790 Keypad Base with 790 Harness

Wiring Specifications

When planning a keypad bus installation, keep in mind the following four specifications:

1. You can install **individual keypads** on wire runs of up to 500 feet using 22 gauge wire or up to 1,000 feet using 18 gauge wire. To increase the wire length or add additional devices, a power supply is required.
2. **Maximum distance** for any one keypad bus circuit (length of wire) is 2,500 feet regardless of the gauge of wire. This distance can be in the form of one long wire run or multiple branches with all wiring totaling no more than 2,500 feet.
3. **Maximum number of devices** per 2,500 feet circuit is 40. (**Note**: Each panel allows a specific number of supervised keypads. Additional keypads can be added in the unsupervised mode. Refer to the panel's installation guide for the specific number of supervised keypads that are allowed.)
4. **Maximum voltage drop** between the panel (or auxiliary power supply) and any device is 2.0 VDC. If the voltage at any device is less than the required level, an auxiliary power supply should be added at the end of the circuit. The 2.0 VDC drop minimum has not been verified by UL.

Refer to the 710 Module Installation Sheet (LT-0310) for more information. Also see the LX-Bus/Keypad Bus Wiring Application Note (LT-2031).

2-Button Panic Keys

The Panic key function of the keypads allows users to send Panic, Emergency, or Fire reports to the central station. The user must press and hold the two Select keys for two seconds until a beep from the keypad is heard. At the beep, the panel sends an alarm report to the central station with the following zone numbers: 19 = **Panic**, 29 = non-medical **Emergency**, and 39 = **Fire.**

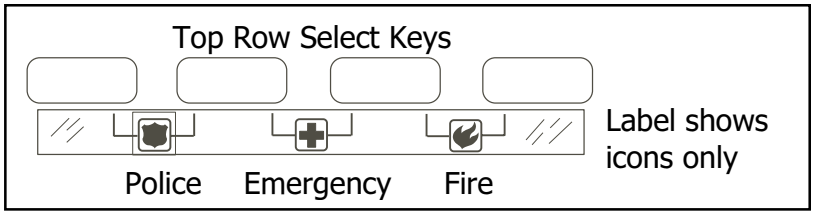


Figure 2: Panic Key Label

The Panic key function must be programmed if the Panic keys are to be used. See the back of this page for programming instructions. Install the supplied icon label below the top row of Select keys.

Internal Speaker Operation

The 690/790 keypad speaker emits standard tones for key presses, entry delay, and system alerts. When used with the XR200 Command Processor™ Panel, the speaker also provides **burglary**, **fire**, **zone monitor,** and **prewarn** tones.

Entry Delay Prewarns

The 690 and 790 keypads provide an alternative entry delay prewarn cadence that occurs when a zone alarm is displayed in the status list. This function only operates when the keypad is connected to an XRSuper6, XR20, XR40, XR200, or XR200-485 Command Processor™ panel.

Keyboard Backlighting

The keyboard on the 690/790 lights every time a key is pressed or the speaker sounds. During an alarm condition, the keyboard also illuminates in **Red** to visually alert people on the site. The Red backlighting is turned off when all areas in the system are disarmed or when the Sensor Reset function is used.

The keyboard backlighting dims to medium brightness whenever the speaker is on.

End-User Options

The 690/790 keypads provide three adjustments to the keypad that can be made by the end-user. Below is a description the options and instructions on their operation.

To access the **User Options** portion of the keypad, press and hold the Back Arrow and COMMAND keys for two seconds. The keypad display changes to **SET BRIGHTNESS**. Press the COMMAND key to display the next option or the Back Arrow key to exit the **User Options** function.

Backlighting Brightness

This option allows the user to set the brightness level of the keypad's Liquid Crystal Display (LCD), AC LED, and the Green keyboard backlighting. At the **SET BRIGHTNESS** display, use the left Select key to lower the keypad brightness. Use the right Select key to increase the brightness.

Note: If the brightness level is lowered, it will temporarily revert back to maximum intensity whenever a key is pressed. If no keys have been pressed, and the speaker has not sounded for 30 seconds, the user selected brightness level is restored.

Internal Speaker Tone

This option allows the user to set the tone of the keypad's internal speaker. At the **SET TONE** display, use the top left Select key to make the tone lower. Use the right Select key to make the tone higher.

Volume level

This option allows the user to set the volume level of the keypad's internal speaker for key presses and prewarn conditions. During alarm, trouble, and prewarn conditions, the volume is always at maximum level. At **SET VOLUME LEVEL**, use the left Select key to lower the keypad volume. Use the right Select key to raise the volume.

Model Number

The LCD displays the keypad's model number as well as the firmware version and date. The information cannot be changed by the user.

Keypad Address

The LCD displays the keypad's current address as programmed the **Keypad Address** option discussed below. The information cannot be changed by the user. Press the Back Arrow key to exit the **User Options** function.

Installer Options

The 690 and 790 keypads also contain an **Options** and **Diagnostic** program that allows you to configure and test the keypad operation.

How to get in

You can only access the **Installer Options** function through the User Options function. After holding down the Back Arrow and COMMAND keys for two seconds and getting the **SET BRIGHTNESS** display, enter the code 3577 (INST) and press COMMAND. The display now changes to **KPD OPT** (keypad options) **KPD DIAG** (keypad diagnostics) and **STOP**.

Keypad Options (KPD OPT)

This option allows you to:

- set the keypad address
- select supervised or unsupervised mode
- change the keypad display message
- individually enable the 2-button Panic keys

To enter, press the left Select key under **KPD OPT**. The display changes to **CURRENT KEYPAD ADDRESS: # #**.

Keypad Address

You can set the keypad address from 01 to 16. The factory default address is set at 01. To change the current address, press any Select key to delete the old address and then press the appropriate number keys on the keyboard. It is not necessary to enter a leading zero for addresses 01 to 09.

Supervised or Unsupervised Mode

You can configure the keypad for either supervised or unsupervised operation. Supervise keypads that have zones connected to them. Supervised keypads cannot share addresses with other keypads. To enhance the supervision feature, assign an output to the Device Fail Output in the panel's programming and connect a device to the corresponding output that will trip when the keypad fails. This provides notification at the central station and the site. The other keypads will not display the device fail.

Unsupervised keypads *can* operate with other unsupervised keypads sharing the same address. Zones cannot be used on unsupervised keypads. To change the current setting, press the Select key under **SUP** or **UNSUP.** An asterisk appears next to the selected option.

Default Keypad Message

You can enter a custom message of up to 16 characters that appears on the top line of the keypad display whenever that line is not being used for any other purpose. Press any Select key to clear the current display and use the data entry keys to enter a new custom display.

Entering Alpha Characters

You can use the keypad to enter alpha characters. To enter an alpha character, press the key that has the desired letter written below it. The keypad display will show the number on that key. To change the number to a letter, press the top row Select key that corresponds to the location of the letter under the key. For example, if you press key number 1, the letters for that key are A, B, and C. Press the first Select key for A, the second for B, and the for C. See Figure 3.

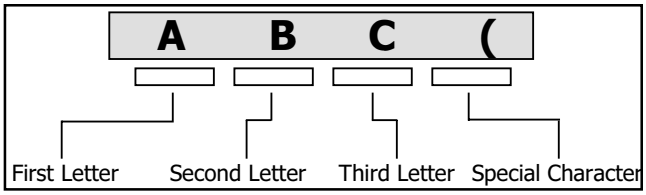


Figure 3: Entering Alpha Characters

Entering Non-Alphanumeric Characters

When in the Installer Options Menu, each key also has a special, non-alpha character you may use. These characters are not shown on the keypad, but they can be selected by following the key map in Figure 4. Enter a space by pressing 9 then the third Select key. The special characters available are as follows starting with the 1 digit key to the 9 digit key: **( ) ! ? / & $, '** and **- . * #** for the 0 key.

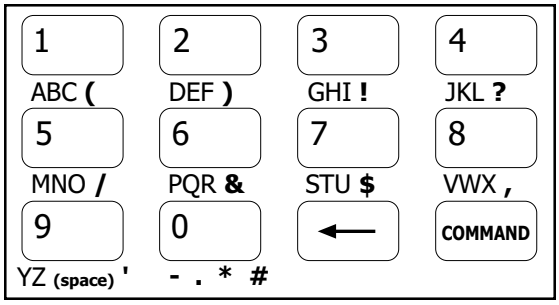


Figure 4: Letters and Characters Key Map

Arm the 2-button Panic Keys
This option allows you to enable or disable the top row of Select keys as 2-button Panic keys. To enable or disable a Panic, press the Select key under the appropriate display: **PN** (Panic), **EM** (Emergency), and **FI** (Fire). Once the panic is enabled, an asterisk appears next to the description. Refer to the **2-Button Panic Keys** section on the front of this document.

Zone 2 Soft-Shunt™
This option is intended for DMP 791 and 793 Easy Entry™ Keypads. Leave the option set to NO.

Zone 3 Request to Exit
This option is intended for DMP 791 and 793 Easy Entry™ Keypads. Leave the option set to NO.

4-Digit Entry Cards
This option is intended for DMP 791 and 793 Easy Entry™ Keypads. Leave the option set to NO.

ALL? NO YES DELAY: 2
Select the number of seconds the keypad should wait when an area system displays **ALL? NO YES** during ***arming/ disarming*** or a **HOME/SLEEP/AWAY** system waits during ***arming only***. If **NO** or **YES,** or **HOME, SLEEP,** or **AWAY** is not pressed before the delay expires, the keypad automatically selects the **YES** or the **AWAY** key. Select zero (0) for no delay. The delay can be one to nine (1-9) seconds.

Keypad Diagnostics (KPD DIAG)
This option allows you to:

- check the display segments
- check the keyboard backlighting
- test individual keys

Press the Select key under **KPD DIAG**. The keypad lights all segments of the display and illuminates the keyboard in Green. A few seconds later the keypad turns off the display and illuminates the keyboard in Red. The keypad then alternates between these two states for approximately two minutes.

Press COMMAND at any time to continue. The display changes to **PRESS KEY TO TEST**. This option allows you to test each key on the keyboard to ensure it's operating properly. Press and hold each key for about two seconds. The number of the key being held appears in the display. Verify it is the correct number before testing the next key.

Zone test (790 keypad only)
This option allows the keypad to display the current electrical status of the 790 keypad's four protection zones. The status is shown as either **OPEN**, **SHRT**, or **OKAY**.

INPUT WIEGAND
This option works on the DMP Model 791 and 793 Easy Entry™ Keypads only.

Exiting the Installer Options
When done, press the COMMAND key once to return to the Installer Options screen. Press the Select key under **STOP** to exit the Installer Options function.

Specifications

Operating Voltage:	8.0 to 16 VDC.
Current Draw:	
690	100mA standby and alarm
790	Standby: 100mA + 1.6mA per active zone Alarm: 100mA + 2mA per active zone
Dimensions:	6.75” W x 5” H x 1” D

Compatible Panels
All DMP Command Processor® Panels

Accessories

Model	Description
695	Conduit Backbox
696	Keypad Backbox
699	Keypad Deskstand

DMP Zone Expander Modules

Digital Monitoring Products
800-641-4282
www.dmp.com
Made in the USA
INTRUSION • FIRE • ACCESS • NETWORKS
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Springfield, Missouri 65803-8877

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